




MEMORANDUM

Date: July 7, 2014

To: Dwight Leisle, Port of Portland
Anzie Nelson, Port of Portland

From: Herb Clough, P.E. 

cc: Mark Lewis, Formation Environmental
Katy Weil, Metro

Re: Willamette Cove Upland Facility
DU-6 Interim Action
Portland, Oregon
ECSI No. 2066
1056-05

This memorandum presents the proposed interim action at Decision Unit 6 (DU-6) for the Willamette Cove Upland Facility (the Facility; Figures 1 and 2) in the St. Johns area of Portland, Oregon. Work at the Facility is being conducted under Voluntary Agreement EC-NWR-00-26 between the Port of Portland (Port), Metro, and the Oregon Department of Environmental Quality (DEQ).

TARGET INTERIM ACTION AREA

Based on relatively higher concentrations of dioxins/furans in the DU-6 area, DEQ requested that the Port complete an interim action to address potential human health risks prior to implementation of removal actions or final remedies. The area targeted for interim action was based on the following assumptions/observations/constraints.

- In their email of July 3, 2014, DEQ included an evaluation of short-term risk for a trespasser scenario. Concentrations corresponding to a hazard quotient of 1 ranged from 3,400 to 34,000 ng/kg for acute (less than 2 weeks) to intermediate (up to 1 year) exposures.
- Removal actions are expected within the next 6 to 24 months.
- The area in DU-6 with relatively higher concentrations of dioxins/furans is characterized by dense vegetation bisected by a historical unpaved roadway. This former roadway is being utilized as a pathway by trespassers. There are no indications of other uses of the area. The attached photograph log shows photographs of the sample locations where dioxin/furan TEQ (toxic equivalent) concentrations are approximately 5,000 ng/kg or greater.
- The samples with higher relative concentrations of dioxins/furans are generally within the 50-foot greenway setback. Earthwork within the greenway setback that totals more than 50 cubic yards of cut/fill would be

subject to permitting/greenway review from the City of Portland. Because of the designation of Willamette Cove as open space, the time required for permitting could be quite lengthy.

The area targeted for interim action is the extent of exposed, bare soil in DU-6 with dioxin/furan TEQ concentrations that exceed 10,000 ng/kg. The DEQ risk evaluation indicated a range of acceptable short-term concentrations of 3,400 to 34,000 ng/kg. Further actions are expected in this area within the next 6 months to 2 years, so the intermediate exposure duration is a reasonable upper bound. The DU-6 area is in a portion of the site that is relatively narrow and does not have a beach. The only human activity indicated is the footpath, so the exposure assumptions in the DEQ risk evaluation likely overestimate risk. Therefore, interim action that addresses the exposed soil in the pathway will address the short-term risk. For the target interim action level, the geometric mean of the range of acceptable short-term exposure concentrations was selected.

INTERIM ACTION AREA

The pathway is approximately 7 feet wide and crosses DU-6 in approximately the east-west direction. The portion of the pathway within the area with TEQ concentrations in excess of 10,000 ng/kg was delineated by interpolating between sample locations. Figure 3 shows the location of the interim action area.

EVALUATED ALTERNATIVES

Several alternatives were considered for implementation as an interim action at the project site. These alternatives included:

- Excavation and disposal of the impacted soil;
- Installation of fencing to prevent access; and
- Capping to prevent contact with impacted soil.

The capping alternative was determined to be the most practicable approach for the interim action, based on the following discussions.

Excavation. Excavation of the interim action area was determined to be impractical for an interim action as the volume would exceed 50 cubic yards of removal, triggering lengthy permitting. The depth of impact is unknown, but may exceed 1 foot. Assuming a 10-foot-wide excavation and no backfilling of the excavation, less than 100 feet of the path could be addressed by excavation.

Fencing. Fencing around the interim action area may prevent casual contact with the impacted soil, but the area is remote and unsupervised. Based on past experience at the site, vandalism is expected, compromising the effectiveness of the interim action at preventing access to the area.

Capping. A 3-inch gravel cap would be effective at preventing dust generation during use of the path. Three inches is sufficient for foot traffic and limits the volume of soil that would be subject to removal in subsequent removal or remedial actions. The capping alternative is similar to the fencing alternative, with regards to being effective by preventing contact with the soil within the interim action area. A cap, however, would not be as susceptible to vandalism and is expected, therefore, to be more effective. The capping alternative would also reduce the potential for dust generation from within the interim action area. As the capping alternative would be effective immediately after implementation (and therefore compatible with a short-term interim action), and is considered to be more effective than the fencing alternative, it is the recommended alternative for implementation as the interim action.

INTERIM ACTION DESIGN

Based on the considerations discussed above, the interim action cap will consist of a 3-inch-thick layer of crushed rock (3/4-inch minus or similar, depending on availability) spread evenly across the existing exposed surface of the former roadway within the interim action area. This area is approximately 180 feet long by 7 feet wide (defined by the edges of the contiguous dense vegetation on either side of the former roadway). The crushed rock will be imported from a commercial supplier, free of debris and vegetation, placed in a single lift, leveled as appropriate to maintain the cap thickness, and wheel rolled and/or hand tamped to a firm condition. Trucks and equipment leaving the site will be decontaminated by dry brushing the wheels. Figure 3 shows a plan view and typical cross-section detail of the proposed interim action cap. The estimated cap volume is 12 cubic yards.

Access to the site is via N. Edgewater Street. The access road is blocked by large concrete blocks/rubble at two or three locations (depending on route). The blocks/rubble will be removed to provide access and then replaced after completion of the work.

ATTACHMENTS

Photograph Log
Figure 1 – Facility Location Map
Figure 2 – Facility Plan
Figure 3 – Interim Action Design



Note: Base map prepared from USGS 7.5-minute quadrangles of Linnton and Portland, OR, dated 2011 as provided by USGS.gov.

0 2,000 4,000
Approximate Scale in Feet



Facility Location Map

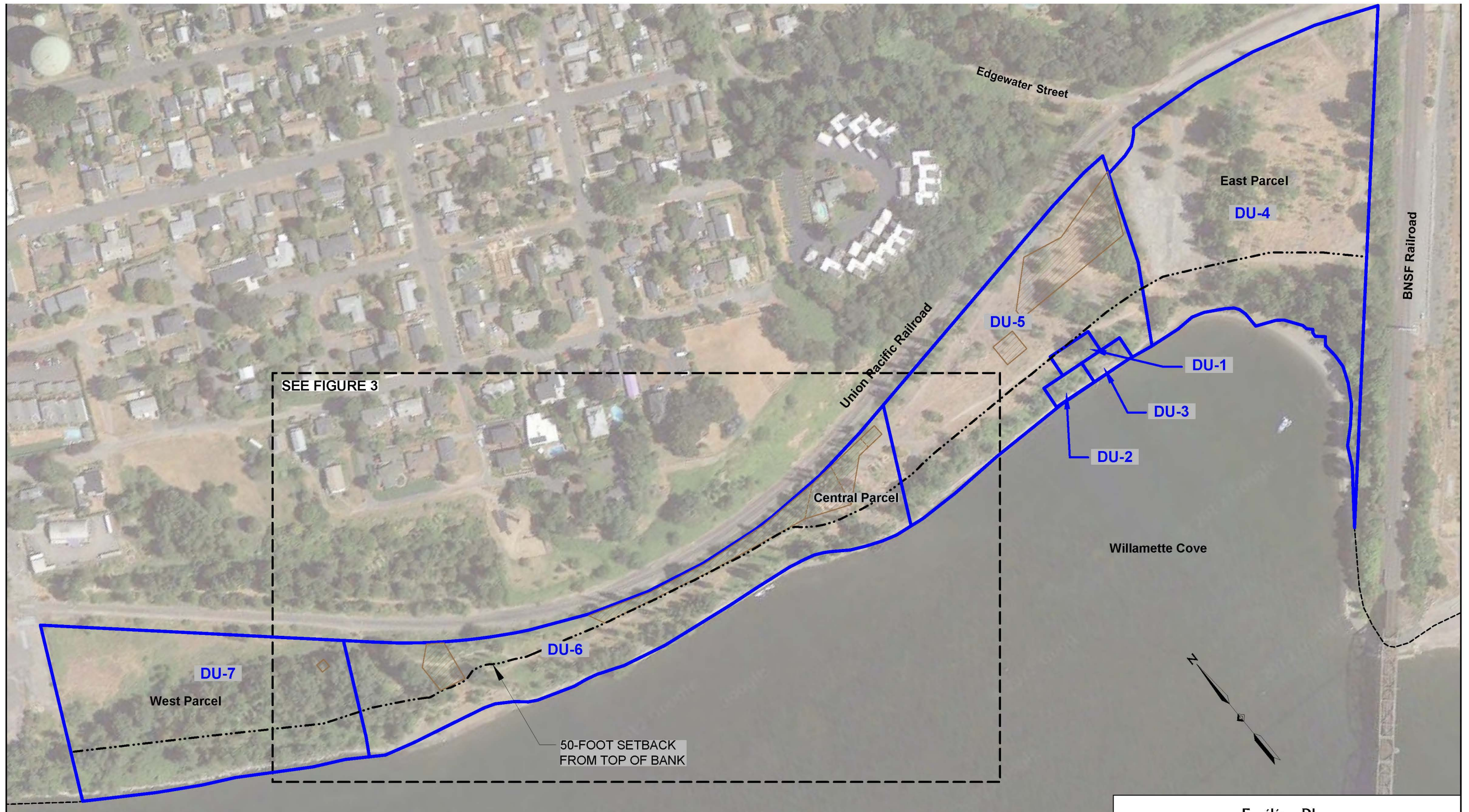
DU-6 Interim Action
Willamette Cove Upland Facility
Portland, Oregon





Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	1056-05
July 2014	

Figure
1



Legend:

- DU-7**  ISM Sample Boundary
-  Approximate Removal Actions Areas

0 200 400
Scale in Feet

Facility Plan

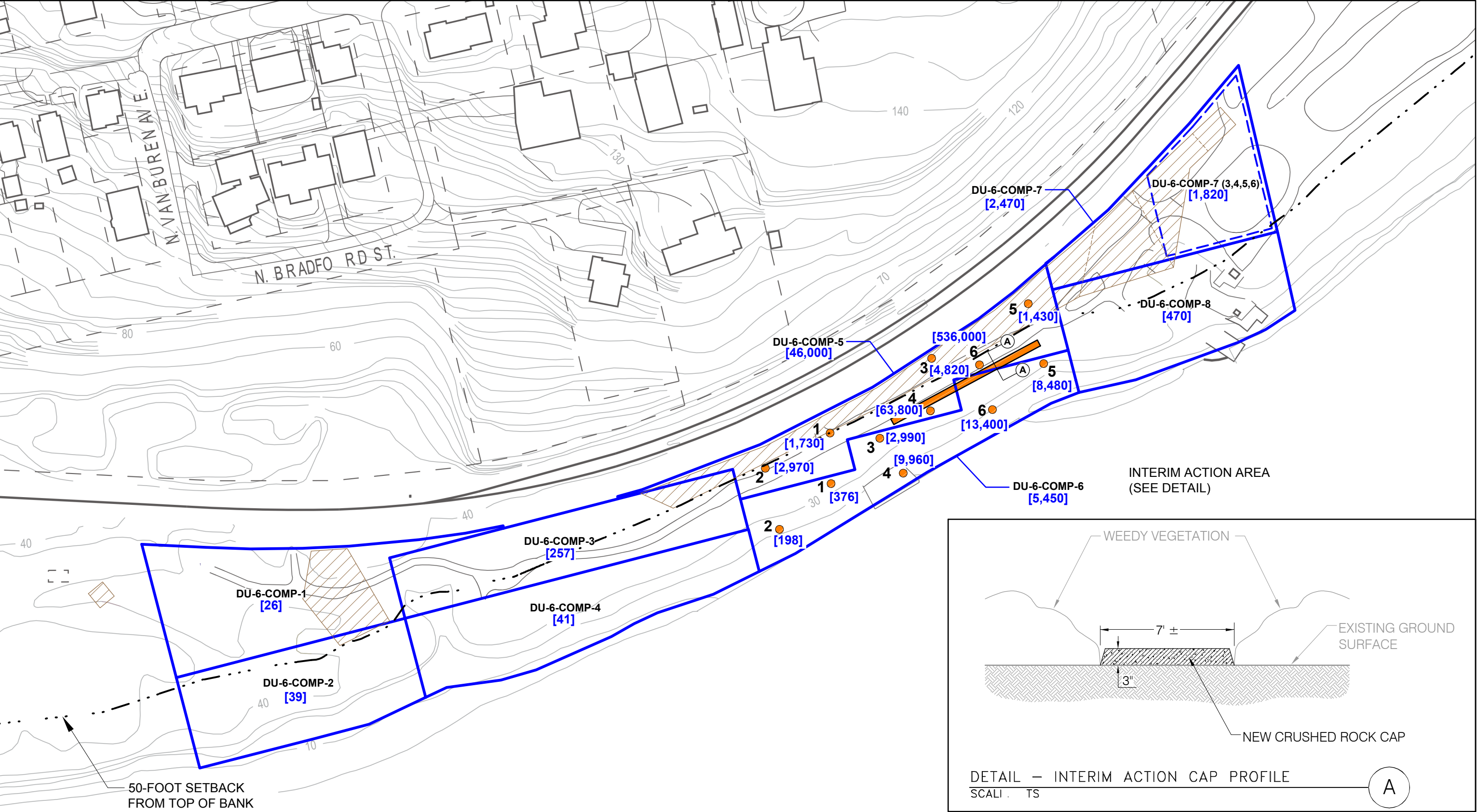
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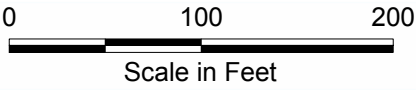
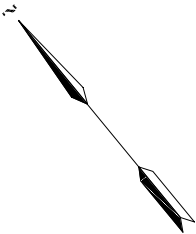
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Figure
2



Legend:

- 1 • Sample Location and Number
- [39] Dioxins/Furans TEQ Concentration in ng/kg
- Composite Sample Boundary
- Approximate Removal Actions Areas
- Interim Action Area (See Detail)
- Cross-Section Location



Interim Action Design

DU-6 Interim Action
Willamette Cove Upland Facility
Portland, Oregon

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Attachment A

Photograph Log

PHOTOGRAPH LOG

Project Name: Willamette Cove Upland Facility
Project Number: 1056-03



Client: Port of Portland
Location: Portland, Oregon

Photo No: 1	
Photo Date: 6/19/2014	
Orientation: East	
Description: Stake at location DU-6-COMP-5-3 (shown in white circle).	
Photo No: 2	
Photo Date: 6/19/2014	
Orientation: Southeast	
Description: Stake at location DU-6-COMP-5-4 (shown in white circle).	

PHOTOGRAPH LOG

Project Name: Willamette Cove Upland Facility
Project Number: 1056-03

Client: Port of Portland
Location: Portland, Oregon

Photo No: 3	
Photo Date: 6/19/2014	
Orientation: East	
Description: Stake at location DU-6-COMP-5-6 (shown in white circle).	
Photo No: 4	
Photo Date: 6/19/2014	
Orientation: Southeast	
Description: Stake at location DU-6-COMP-6-4 (shown in white circle).	

PHOTOGRAPH LOG

Project Name: Willamette Cove Upland Facility
Project Number: 1056-03

Client: Port of Portland
Location: Portland, Oregon


Photo No: 5	
Photo Date: 6/19/2014	
Orientation: Southeast	
Description: Looking from path toward location DU-6-COMP-6-4. Approximate location over the top of the riverbank shown in the white oval.	

Photo No: 6	
Photo Date: 6/19/2014	
Orientation: Southeast	
Description: Stake at location DU-6-COMP-6-5 (shown in white circle).	

PHOTOGRAPH LOG

Project Name: Willamette Cove Upland Facility
Project Number: 1056-03

Client: Port of Portland
Location: Portland, Oregon

Photo No: 7	
Photo Date: 6/19/2014	
Orientation: Southeast	
Description: Stake at location DU-6-COMP-6-6 (shown in white circle).	
Photo No: 8	
Photo Date: 6/19/2014	
Orientation: Southeast	
Description: Looking from path toward location DU-6-COMP-6-6. Approximate location over the top of the riverbank shown in the white circle.	